

CHAPTER 14A

ELEVATORS

14A-01 GENERAL

a. Coordination of Work

(1) This chapter covers the installation and testing of Electric Elevators and Hydraulic Elevators. See Chapter 16A and NEC 70-ARTICLE-620, for Electrical; Chapter 5A for Structural Steel; and Chapter 5B for Welding.

(2) The contract drawings indicate general layout and components of the elevators. Approved shop drawings will provide necessary information for installation of the particular elevator selected for the project.

(3) Elevator installation is a speciality trade. Elevator installation mechanics must have a minimum of two years experience on type of elevator specified. Close coordination is required between contractor*s CQC organization and the supervisor installing the elevator.

(4) Checks should be made to detect and avoid any conflict between the elevator layout and the structure. Conduits and pipes will not be run through the elevator shaft.

(5) In cases of hydraulic elevators, the installation must be started early enough in the construction period so that installation may be made of the hydraulic casing.

(6) 3-Phase inspections and meetings will be held with CQC representative and elevator installer representative to assure that quality work designed into the project is being obtained.

(7) When structural or load bearing members are to be field welded, welding and qualification of welders shall be as specified in section: Welding, Structural.

b. Layout

(1) The contractor must provide elevator equipment room layout drawings which must be reviewed and approved prior to installation of equipment.

(2) Check layout of elevator equipment room for space to maintain and repair the electrical and mechanical equipment.

14A-02 MATERIALS

a. Shop Drawings

(1) Shop drawings will provide necessary erection details. They will include a complete list of equipment and materials, including illustrations, schedules, manufacturer*s descriptive literature, performance charts, catalog cuts, installation instruction, brochures, diagrams, fabrication instructions, dimensioned layouts in plan and elevation showing the arrangement of the elevator equipment.

(2) Compare the shop drawings closely with the contract requirements contained in the plans and specifications.

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(3) Become familiar with the shop drawing and contract requirements prior to each phase in particular for the preparatory meeting and initial inspection. Refresh your memory by referring to these documents as follow-on inspections are made.

b. Spare Parts Data

Prior to beneficial occupancy (B.O.) the contractor shall provide a complete list of parts and supplies, with the current unit prices and source of supply. This information will be turned over at time of B.O.

c. Operating and Maintenance Instructions

The contractor will furnish complete copies of operating instructions, maintenance instructions, operator training for using agency personnel, and will post where directed, framed instructions and wiring and control diagrams showing the complete layout of the entire system. Upon completion of testing he will provide test results in booklet form, showing all field tests performed to adjust each component, and all field tests performed to prove compliance with the specified performance criteria.

d. Storage and Handling

(1) Insure that materials are new, handled safely and carefully to prevent damages and are the source as approved.

(2) Reject damaged and nonconforming materials. Have damaged coatings repaired.

(3) Check for storage off the ground. Assure weather tight storage to protect finished materials, equipment, and panels.

14A-03 INSTALLATION AND TESTING OF ELECTRICAL AND HYDRAULIC ELEVATORS

a. See that structural steel framing and guide rails are plumb and secured as required.

b. See that contractor has checked equipment dimensions against the space available, and checked to see if shaft is plumb.

c. Compare the features of the delivered equipment with the approved shop drawings.

d. Check for required accessories such as fan, telephone, light fixtures, convenience outlets, wrenches, direction-light jewels, etc.

e. Provide steel casing larger than diameter of hydraulic elevator's cylinder. The casing shall be accurately positioned, plumbed, and set to accept the cylinder. Prior to setting cylinder in casing, the entire outside surface of the cylinder shall be protected from corrosion by the application of double-wrapped layers of isolation material recommend by the manufacturer. The area between the casing and the cylinder wall shall be filled with dry sand after the cylinder has been accurately located. Seal top of casing. The work of boring the well and setting the cylinder shall be coordinated with construction of concrete pit.

f. Verify that ferrous metal meets salt-spray fog test, and that stainless steel panels are used where specified.

g. Make sure that protection guards are provided for moving parts, this includes shafts, keys, setscrews, belts, sprockets, and chains.

h. Check contract installation requirements against the manufacturer's recommendations. Call to your supervisor's attention any differences.

i. Check anchor bolts and conduits for proper location.

j. Check elevator mechanics and welders qualifications.

k. Carefully check all installations for stability, specified connections, anchorage, etc.

l. Determine the type of lubrication required, and examine equipment for same.

m. See that spare parts data is provided for each item of equipment.

n. Operate elevator to determine responsiveness. See that manufacturer's name plate is in a conspicuous location. Check all control lights, both inside the cab and at elevator landings.

o. Check all safety features. Determine if contract requires a break-in period, operated by the contractor.

p. Installation or hoisting or lifting machinery may require that construction of certain floor and/or wall areas be deferred until installation is completed.

q. Guard open shaftways until doors are provided.

r. Inspect hoisting cables after installation for possible damage during the construction operation. For hydraulic elevators also inspect the hydraulic lifting device after installation.

s. Assure that required tests are performed in compliance with ASME A17.1 and that all data is recorded. Obtain copies of all tests with certification that the elevator are properly installed and are in proper operating condition.

t. Check certification by elevator inspector per AR 420-15. See that the safety certification is mounted in the cab and under glass.

u. Check contract requirements for homing of elevator after last call. Check specified door opening time. Check sequence required when a multi-elevator installation is made.